CLAIMS

What is claimed is:

1. A storage medium comprising application software that performs one or more operations and that facilitate a conversion of virtual memory addresses to physical memory addresses in a device, said application software comprising:

instructions that initialize an application data structure usable by the application software to facilitate the conversion of virtual memory addresses to physical memory addresses in the device; and

instructions that store pointers to virtual memory addresses in the application data structure; and

instructions that replace the pointers to virtual memory addresses in the application data structure with pointers to physical memory addresses before the execution of a protected application.

2. The storage medium of claim 1 wherein the instructions that initialize are executed when the device is in a non-secure mode.

3. The storage medium of claim 1 wherein the application data structure comprises an application array.

4. The storage medium of claim 1 wherein the instructions that store utilize a multi-tiered structure to store virtual addresses.

5. The storage medium of claim 3 wherein the instructions that initialize the application array comprise instructions that initialize a multi-dimensional array.

6. The storage medium of claim 3 wherein the instructions that initialize the application array comprise instructions that initialize a single-dimensional Java array.

7. A device, comprising:

a secure physical memory subsystem containing a protected application;

a non-secure virtual memory subsystem containing virtual memory;

a processor coupled to the secure and non-secure memory subsystems; and

logic that converts a pointer to a virtual memory address associated with a parameter to the protected application to a pointer to a physical memory address.

8. The device of claim 7 wherein the non-secure subsystem further comprises physical memory.

9. The device of claim 7 wherein the non-secure subsystem contains a copy of the protected application.

10. A method comprising:

building a list of pointers to one or more virtual memory addresses associated with an object;

converting the one or more virtual memory addresses to one or more physical memory addresses; and

replacing the pointers to one or more virtual memory addresses with pointers to the one or more physical memory addresses;

wherein the object is a parameter to a protected applications.

11. The method of claim10 wherein the building a list further comprises storing the list into an array.

12. The method of claim 11 wherein the array comprises a multi-dimensional array.

13. The method of claim 10 wherein the object comprises a multi-tiered structure.

14. The method of claim 10 wherein the object comprises multiple objects.

15. The method of claim 10 wherein the converting further comprises executing the protected application.